From Data Integration to Responsible Data Stewardship: A Community-Centred Governance Framework for Grassroots Organisations

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ABSTRACT

Digital information integration can improve coordination, record management and organisational continuity in grassroots organisations, but technical connectivity does not independently establish responsible information practices. Decisions concerning legitimate purposes, information access, stakeholder participation, accountability and appropriate protection require continuing attention across the information lifecycle. These concerns are particularly relevant to grassroots organisations where administrative responsibilities may be distributed among volunteers and office-bearers with varying technical capabilities and resources. This article develops a community-centred conceptual framework for responsible data stewardship by extending a previously published data-integration architecture for Trefoil Guild Melaka. Using a theory-informed conceptual synthesis, the study connects Community Informatics, participatory approaches, User-Centred Design, data governance and lifecycle-oriented stewardship to clarify how community-responsive system design can be complemented by organisational responsibilities for information handling. The resulting framework comprises five interrelated characteristics: purpose alignment, accountable responsibility, participatory legitimacy, lifecycle continuity and proportionate safeguards. These characteristics address, respectively, the justification of information practices, allocation of decision authority, consideration of stakeholder interests, continuity of responsibilities and suitability of protective measures. Six theoretical propositions articulate expected relationships between the characteristics and the coherence of organisational stewardship arrangements. The framework's contribution lies in distinguishing information integration from continuing stewardship, connecting complementary theoretical perspectives and offering a structured basis for examining governance responsibilities in resource-constrained community settings. Illustrative considerations involving membership information, activity tracking and capability-building demonstrate the framework's intended analytical application without constituting evidence of implementation. As a conceptual contribution, the proposed characteristics and relationships have not been empirically tested or validated. Future research should assess their distinctiveness, contextual applicability and practical enactment through comparative organisational studies and the development of appropriate indicators.

Keywords: Responsible Data Stewardship; Community Informatics; Data Governance; Participatory Information Systems; Grassroots Organisations; Information Lifecycle.

INTRODUCTION

Digital information systems enable grassroots organisations to consolidate membership records, coordinate activities and maintain organisational knowledge. However, technical integration does not independently establish which information purposes are legitimate, who may authorise access, or how responsibilities continue as records and organisational circumstances change. These concerns extend beyond information connectivity to organisational governance and stewardship [1, 2]. Such questions are relevant where administrative work is distributed among office-bearers and volunteers, digital capabilities vary, and responsibilities change with organisational leadership. Community-oriented technology research highlights the importance of local capacity, accessible design and workflow fit [3, 4, 5]. These studies provide contextual insight rather than evidence that every grassroots organisation experiences identical constraints.

Community Informatics connects technology with community purposes; participatory approaches emphasise stakeholder involvement; and User-Centred Design addresses accessibility and practical use [6, 7]. Data-governance scholarship adds decision authority, accountability and oversight [1, 8]. The conceptual challenge is not the absence of these principles, but their integration into an account of continuing responsibility for information within grassroots organisations. The contextual foundation draws on two complementary conceptual contributions concerning Trefoil Guild Melaka. A community informatics framework addresses digital capability development among mature women, emphasising the relevance of community context and digital participation [9]. A subsequent data-integration architecture connects membership information, activity tracking and capability-building through principles of inclusivity, co-creation, transparency, workflow alignment and flexibility [10]. The present article extends this conceptual foundation by examining continuing organisational responsibilities for information governance and stewardship. Neither earlier conceptual contribution is treated as evidence of empirical implementation or validation.

Integration concerns how information is connected; governance concerns how information decisions are authorised and overseen; stewardship concerns how responsibilities are enacted and maintained over time. Integrated records can support coordination while leaving questions of secondary use, correction, retention and disposal unresolved. These questions motivate the research question:

> *How can community-oriented information-system design principles be extended into a coherent conceptual framework for responsible data stewardship across the information lifecycle in grassroots organisations?*

The framework integrates five characteristics—purpose alignment, accountable responsibility, participatory legitimacy, lifecycle continuity and proportionate safeguards—and articulates six theoretical propositions. Its contribution is to distinguish integration from stewardship, synthesise complementary governance concerns in a grassroots context, and identify relationships for subsequent examination. It is not an implemented governance instrument or validated compliance model.

Section 2 explains the conceptual development approach; Section 3 establishes the theoretical foundations; Section 4 defines responsible community data stewardship; Section 5 presents the framework and propositions; Section 6 discusses implications and limitations; and Section 7 concludes.

CONCEPTUAL DEVELOPMENT APPROACH

A theory-informed conceptual development approach is adopted to clarify relationships rather than assess an implemented system. The published Trefoil Guild Melaka architecture supplies the contextual foundation; community-oriented design, participatory research, data governance and lifecycle stewardship provide complementary conceptual perspectives. This is neither a systematic review nor an empirical study; no interviews, coding exercise, implementation or validation is claimed.

From Platform Architecture to Stewardship

The source architecture organises membership, activity and capability-building information through an integrated data layer [10]. Once information is connected, questions arise about access, correction, sharing, reuse, retention and disposal. These questions are not solved by integration alone. Data-governance research distinguishes decision authority from operational data handling, while stewardship scholarship highlights continuing work needed to maintain responsible practices [1, 11].

The extension shifts the unit of analysis from system components to the relationship among community purpose, organisational decisions, stewardship responsibilities and the people represented in records. It does not claim that the original architecture omitted every governance consideration; it develops a complementary analytical layer.

Scope and Conceptual Boundaries

The paper focuses on grassroots and voluntary organisations whose information practices are shaped by community relationships, participation, limited resources and changing organisational responsibilities. It does not prescribe a software stack, a governance committee or a universal legal regime. Applicable legal basis, privacy obligations, security controls and retention rules must be determined in context. The framework helps organise stewardship questions; it does not certify compliance.

Data integration connects information across sources or functions. Data management comprises operational activities such as maintaining records and supporting quality. Data governance establishes decision rights, rules and oversight. Data stewardship concerns continuing responsibilities through which appropriate handling is enacted and reviewed. These concepts interact, and a single person may perform more than one role; their distinction is analytical.

Conceptual Synthesis and Development Logic

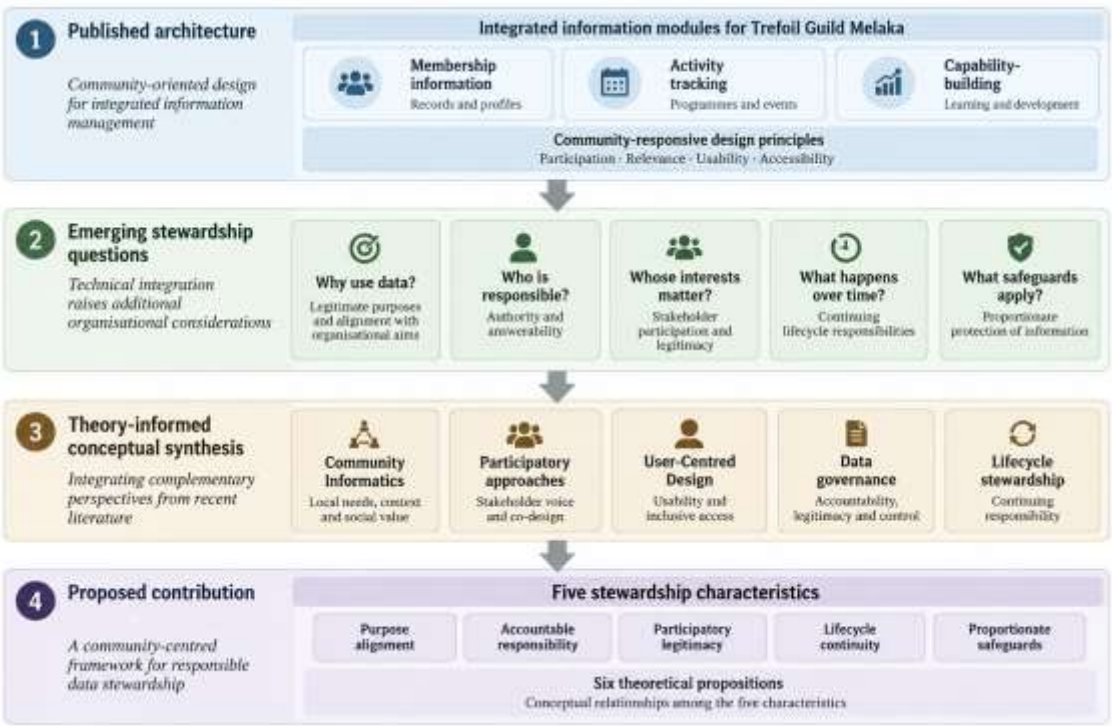


Figure 1. Conceptual development from data integration to responsible stewardship.

Source: Author's conceptual synthesis extending [10].

The synthesis connects Community Informatics, participatory design, User-Centred Design, data governance and lifecycle-oriented stewardship. These perspectives address different concerns: community purpose, stakeholder voice, practical usability, decision authority and continuing responsibility. The CARE Principles illustrate the significance of collective benefit, authority, responsibility and ethics within Indigenous data governance; their context-specific origins preclude automatic transfer to all voluntary organisations [12].

The analytical development proceeds in four stages: retain the published architecture as context; identify stewardship questions distinct from technical integration; consolidate complementary theoretical concerns into five analytically distinguishable characteristics; and formulate six propositions for future examination.

Selection emphasises relevance, conceptual distinctiveness, lifecycle coverage and grassroots applicability. Figure 1 depicts this proposed logic; it is not evidence of systematic coding or empirical derivation.

THEORETICAL FOUNDATIONS

The framework draws together perspectives that explain different dimensions of responsible information practice. Community Informatics directs attention to community purposes and capacity; participatory approaches consider how affected stakeholders contribute to decisions; user-centred design concerns whether arrangements are usable; and data-governance scholarship addresses decision rights, accountability and control. The synthesis clarifies complementary roles rather than collapsing them into a single theory.

Community Informatics: Purpose and Community Context

Community Informatics examines the relationship between digital technologies and the social contexts in which communities organise, communicate and pursue shared objectives. For stewardship, this perspective makes the purpose of information use central. The value of a record depends not only on availability or technical quality, but also on the activity it supports and the consequences of its use.

Work on community-led digital literacy and community platforms emphasises local context, capacity and the need to fit digital arrangements to community circumstances [3, 4]. Within the Trefoil Guild Melaka context, a conceptual Community Informatics framework for enhancing digital capability among mature women further illustrates the relevance of aligning digital initiatives with community circumstances, participation and capability development [9].

Community purpose should not be a blanket justification for any information use. A legitimate objective may justify keeping membership records but not necessarily sharing every detail with all office-bearers or reusing it for an unrelated purpose. Community orientation must therefore be paired with accountability and safeguards.

Participation and Legitimacy

Participatory approaches recognise that affected people can contribute contextual knowledge about information practices. Community-oriented design studies illustrate the value of involving users and local stakeholders [5, 6]. However, participation in platform design is not equivalent to authority over information access, sharing or retention. Stewardship therefore requires meaningful opportunities for stakeholders to understand and question relevant decisions while retaining identifiable organisational accountability.

Participatory legitimacy means that appropriate stakeholders have intelligible opportunities to understand, influence or question relevant information practices. It does not require collective approval of every routine operation or override confidentiality and individual interests.

Information governance may also involve tensions among individual rights, collective values and organisational objectives. Consequently, participatory legitimacy cannot be assessed solely by the extent of stakeholder involvement; it also requires consideration of competing interests and the justification of

governance decisions [13]. The form of participation should therefore reflect the significance of the decision, the people affected and the obligations that apply.

User-Centred Design and Practical Enactment

User-Centred Design addresses whether information procedures can be understood and enacted by the people responsible for them. Accessible explanations, manageable approval procedures and clear handovers connect governance intentions to everyday practices. Community-based platform studies emphasise workflow fit and implementation support [5, 7]. Usability alone, however, does not establish the legitimacy of information use.

Usability does not determine whether a decision is legitimate. An intuitive interface cannot decide who should have access or whether a new use is appropriate. User-centred design is an enabling condition for stewardship, not a substitute for governance.

Data Governance, Stewardship and Lifecycle Responsibility

Data governance concerns the authority, rules and oversight through which information decisions are directed [1]. Recent scholarship examines strategic governance, stewardship in distributed data ecosystems and the broader values embedded in governance arrangements [2, 8, 11].

While governance establishes organisational direction and oversight, stewardship translates these arrangements into operational responsibilities for managing and maintaining information. This relationship highlights the importance of linking governance frameworks to clearly defined stewardship roles and routine information management practices [14].

Lifecycle-oriented stewardship extends this perspective beyond formal rules to encompass the ongoing responsibilities associated with information throughout its lifecycle. These responsibilities arise during collection, maintenance, access, sharing, reuse, retention and disposal, and may evolve as organisational roles, information needs or intended purposes change.

A lifecycle perspective therefore prevents stewardship from being reduced to a one-time policy decision or initial system configuration, emphasising instead the need for continuous responsibility and oversight throughout the management of information.

Integrating the Theoretical Perspectives

Table 1. Theoretical perspectives and their contributions to responsible community data stewardship

Perspective	Primary concern	Contribution
Community Informatics	Community purpose and context	Connects practices to legitimate objectives and member interests.
Participatory approaches	Stakeholder voice	Considers how affected people can understand and contribute to decisions.
User-centred design	Usability and workflow fit	Considers whether procedures are practicable for volunteers.
Data governance	Decision rights and	Clarifies authority, accountability

	oversight	and review mechanisms.
Data stewardship/lifecycle	Continuing responsibility	Connects governance to information handling over time.

Source: Theory-informed conceptual synthesis.

Table 1 summarises the complementary perspectives. Community purpose does not independently determine decision authority; participation does not replace accountability; usability does not establish legitimacy; and formal rules do not guarantee continuing enactment.

Their synthesis therefore addresses the gap between designing a community-responsive information environment and maintaining appropriate organisational responsibility for its information.

CONCEPTUALISING RESPONSIBLE COMMUNITY DATA STEWARDSHIP

Responsible community data stewardship is defined as the continuing organisational responsibility for ensuring that information held by a grassroots organisation is collected, maintained, accessed, shared, reused, retained and disposed of in ways appropriate to legitimate purposes, accountable decision-making and the interests of people represented in the data. It is socio-organisational work supported by technical arrangements, not a synonym for storage, data quality or compliance.

Distinguishing Related Concepts

Integration makes information connectable; management keeps records organised and usable; governance establishes authority and oversight; stewardship concerns how responsibilities are enacted and maintained. A shared repository or policy document does not by itself guarantee appropriate use.

Table 2. Distinguishing related information concepts

Concept	Central question	Primary concern
Data integration	How are records connected?	Coordination and information flows.
Data management	How are records maintained?	Quality, organisation and usability.
Data governance	Who decides under which rules?	Authority, decision rights and accountability.
Data stewardship	How are responsibilities maintained over time?	Continuing care, review and appropriate handling.

Source: Conceptual synthesis informed by data-governance scholarship.

As Table 2 indicates, the four concepts address different but connected organisational questions. Integration enables records to be connected, while management concerns their quality and usability. Governance determines the authority and rules governing information decisions, whereas stewardship concerns whether these responsibilities are carried out and sustained over time.

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This distinction is important for grassroots organisations because a shared information platform may improve coordination without resolving who can approve access, respond to correction requests or review retention. The proposed framework therefore addresses stewardship as a continuing responsibility supported by, but not reducible to, integration, management or governance.

Five Characteristics of Responsible Stewardship

The framework comprises five interrelated characteristics. Each addresses a distinct stewardship concern, while their combined consideration provides a broader account of responsible information handling.

Purpose Alignment

Purpose alignment connects information practices to a legitimate organisational need. Information should not be collected or retained merely because a platform makes it convenient. The organisation should be able to explain its purpose and reconsider whether a new use remains appropriate. Community objectives do not automatically override individual interests.

Accountable Responsibility

Accountable responsibility concerns clear allocation of roles, authority and answerability. The organisation should know who maintains records, approves access, authorises sharing, responds to correction requests and reviews retention. Complex structures are not always necessary, but responsibilities must be clear enough for the organisation's scale and risk.

Participatory Legitimacy

Participatory legitimacy concerns whether information decisions are understandable and responsive to affected people and community interests. It may be supported by explanations of information practices, channels for concerns and correction requests, or consultation when significant practices change. Participation is not unrestricted disclosure or mandatory collective approval of every operation.

Lifecycle Continuity

Lifecycle continuity means that responsibility persists as information is collected, recorded, updated, accessed, shared, reused, reviewed, retained and disposed of. Collection raises questions of purpose and necessity; maintenance raises accuracy; access raises authorisation; sharing raises recipient and intended use; disposal raises continuing need and applicable obligations. Responsibility should continue when records or roles change.

Proportionate Safeguards

Proportionate safeguards are technical, organisational and procedural protections tailored to information sensitivity, potential harm, organisational capacity and applicable requirements. Consistent with established security and privacy control guidance [15], such safeguards may include access controls, accountability mechanisms, secure handling procedures, documented approvals, retention rules and incident response procedures. Their selection and implementation should reflect the risks associated with organisational information, the context in which it is managed and the obligations applicable to its use. Proportionality, however, does not justify non-compliance with mandatory legal, regulatory or organisational requirements.

Stewardship Across the Information Lifecycle



Figure 2. Responsible stewardship across the information lifecycle.

Lifecycle-oriented stewardship also draws on established records-management principles concerning the creation, capture and management of records over time. These principles support the need for continuing attention to record integrity, usability and appropriate disposition [16].

The lifecycle organises application of the five characteristics. It is not strictly linear: records may be corrected, reused or transferred, and a change in purpose may require reassessment. Figure 2 shows lifecycle stages and the cross-cutting role of safeguards.

Figure 2 represents stewardship as a recurring process rather than a one-way sequence. Its six stages identify changing decision points, from establishing a legitimate purpose at collection to determining appropriate disposal or transfer. The central review process indicates that decisions may need to be revisited when records are corrected, reused or transferred, or when office-bearers change. Importantly, the five stewardship characteristics apply across all stages; they are not separate controls assigned to individual stages.

Table 3. Stewardship considerations across the information lifecycle

Lifecycle stage	Stewardship question	Illustrative consideration
Collection	Why is the information needed?	Define purpose and limit collection to justified needs.
Recording and maintenance	Who ensures records remain accurate?	Assign update and correction responsibility.
Access and use	Who may access information, and why?	Set role-appropriate permissions.

Sharing and reuse	Is the disclosure or new use appropriate?	Consider recipient, purpose and obligations.
Retention and review	Is continued retention justified?	Review continuing need and retention requirements.
Disposal or transition	What happens when information is no longer needed?	Provide secure disposal, transfer and handover.

Source: Conceptual synthesis of lifecycle-oriented stewardship responsibilities.

Table 3 translates this lifecycle perspective into illustrative governance questions and organisational considerations. For example, collection calls for justification of information needs, access and reuse require attention to authorisation and purpose, and retention or transition requires review of continuing obligations and handover arrangements. Read together, Figure 2 explains the continuity of stewardship, while Table 3 shows how its concerns may be examined in routine organisational decisions. Neither provides a prescribed workflow or evidence of implementation.

Contextual Conditions and Boundaries

Application depends on organisational capacity, information sensitivity and the surrounding governance environment. An association handling routine event records may need different arrangements from one holding sensitive personal details. The framework does not assume that all grassroots organisations require identical controls. It is not a validated scale or legal compliance instrument, and the source architecture does not demonstrate that the five characteristics have been implemented or evaluated in Trefoil Guild Melaka.

A COMMUNITY-CENTRED FRAMEWORK FOR RESPONSIBLE DATA STEWARDSHIP

The framework organises the five characteristics into a coherent account of how responsible stewardship may be supported. It shifts focus from the technical possibility of connecting information to the conditions under which information practices can be justified, assigned, enacted and reviewed. It is a conceptual aid, not a prescriptive implementation sequence or empirically tested causal model.

Framework Architecture

The framework integrates three analytical layers: community context and legitimate purposes; accountable organisational decisions and appropriate stakeholder participation; and continuing lifecycle enactment. Proportionate safeguards operate across these layers, reflecting information sensitivity, potential harm and applicable obligations. These relationships are complementary rather than a fixed causal sequence.

Figure 3 depicts how the five characteristics operate within community context and organisational purpose. Purpose alignment connects information practices to legitimate objectives; accountable responsibility and participatory legitimacy address complementary questions of decision authority and stakeholder voice. Lifecycle continuity extends these considerations across changing records and organisational circumstances, while proportionate safeguards provide cross-cutting protection appropriate to sensitivity, potential harm and applicable obligations. The two-way relationships indicate that these considerations may inform and require reassessment of one another, rather than forming a fixed implementation sequence. The framework therefore brings together the distinct characteristics defined in Section 4 and provides the conceptual basis for the six propositions in Section 5.2.



Figure 3. Community-centred framework for responsible data stewardship in grassroots organisations.

The relationships represented in the framework are conceptual rather than empirically verified. They should not be interpreted as a fixed causal sequence or mandatory organisational structure. Changes in purpose, stakeholder concerns or information risks may require reassessment of responsibilities and safeguards at different lifecycle stages.

Theoretical Propositions

The six propositions express theoretically reasoned expectations rather than empirical findings. Each suggests a relationship that may be examined through indicators of purpose clarity, role allocation, stakeholder voice, lifecycle handovers, safeguard suitability and the coherence of their joint enactment. No proposition is presented as a validated causal effect.

Proposition 1: Purpose Alignment and Stewardship Coherence

Purpose alignment provides a basis for determining whether information practices remain consistent with legitimate community and organisational objectives. Explicit purposes can inform decisions concerning information collection, integration, access, sharing and reuse. Where purposes are unclear or change without reassessment, information practices may become inconsistent across organisational functions.

P1: Greater clarity and consistency of legitimate information purposes are expected to support more coherent stewardship decisions across organisational functions.

This relationship may be examined through the clarity of documented purposes, the consistency of information-use decisions and the presence of procedures for reconsidering new or changed uses. Purpose clarity alone does not establish legitimacy; relevant stakeholder interests and applicable obligations remain necessary considerations.

Proposition 2: Accountable Responsibility and Operational Enactment

Responsible information handling requires identifiable authority and answerability. Formal governance principles may provide limited practical guidance when responsibility for access approval, record correction, information sharing or retention review is unclear. Defined roles can support the translation of governance expectations into routine organisational practices, particularly where responsibilities are distributed among volunteers and office-bearers.

P2: Clearer allocation of stewardship authority, responsibilities and answerability is expected to support more consistent enactment of organisational information practices.

The proposed relationship depends on the feasibility of assigned responsibilities and the availability of appropriate oversight. Role allocation should therefore be examined alongside actual organisational practices rather than treated as sufficient evidence of accountability.

Proposition 3: Participatory Legitimacy and Community Responsiveness

Community-centred stewardship requires attention to the interests of people represented in organisational information. Appropriate participation can provide opportunities to identify concerns, question information practices and inform significant governance decisions. However, meaningful participation does not require unrestricted access to records or collective approval of every routine operation.

P3: More meaningful and context-appropriate stakeholder participation is expected to strengthen the legitimacy and responsiveness of organisational stewardship arrangements.

The relationship may be examined through the accessibility of information explanations, opportunities to raise concerns, mechanisms for correction and the extent to which stakeholder input informs relevant decisions. Participation should be assessed in relation to decision significance, confidentiality and applicable responsibilities.

Proposition 4: Lifecycle Continuity and Stewardship Consistency

Information responsibilities extend beyond initial collection and system configuration. Records may be updated, combined, reused, transferred or disposed of, while organisational roles and purposes may change. Without continuing review, previously appropriate arrangements may become inconsistent with current needs or obligations.

P4: Greater continuity of stewardship responsibilities across information lifecycle stages is expected to support more consistent information handling during organisational and operational change.

Potential examination may consider the existence and enactment of review procedures, responsibility handovers, retention decisions and mechanisms for reassessing information use. Lifecycle continuity does not require identical procedures at every stage; responsibilities should reflect the decisions and risks associated with each stage.

Proposition 5: Proportionate Safeguards and Responsible Information Handling

Safeguards provide technical, organisational and procedural constraints on inappropriate information practices. Their suitability depends on information sensitivity, potential consequences of misuse, operational capacity and applicable obligations. Excessively complex arrangements may create implementation difficulties, while insufficient safeguards may expose members and organisations to avoidable risks.

P5: Closer alignment between information safeguards, assessed risks and applicable obligations is expected to support responsible information handling while reducing unnecessary procedural burden.

This proposition does not imply that resource limitations justify weaker protection than mandatory requirements permit. Proportionality concerns the selection and maintenance of appropriate safeguards within those requirements.

Proposition 6: Integrated Characteristics and Stewardship Coherence

The five characteristics address different but connected aspects of responsible stewardship. Purpose alignment without accountability may leave justified objectives unenforced. Accountability without participation may overlook relevant stakeholder interests. Participation without lifecycle continuity may fail to influence subsequent information practices. Lifecycle procedures without appropriate safeguards may leave information insufficiently protected. Their combined consideration therefore provides a more comprehensive analytical basis than reliance on any single characteristic. This expectation concerns conceptual complementarity rather than a demonstrated additive or causal effect.

P6: The integrated consideration of purpose alignment, accountable responsibility, participatory legitimacy, lifecycle continuity and proportionate safeguards is expected to provide a more coherent basis for responsible community data stewardship than isolated consideration of individual characteristics.

Future research may examine whether these characteristics remain distinguishable in practice, whether additional dimensions are necessary and how their relationships vary across organisational contexts. The framework does not assume that all characteristics have equal importance under every circumstance.

Illustrative Application and Novelty

The contribution is not to rename the source paper's design principles. Inclusivity, co-creation, transparency, workflow alignment and flexibility guide the design of a community-oriented platform. The proposed characteristics address another analytical level: justified purposes for information use, accountable responsibility, participation in governance decisions, lifecycle obligations and safeguards. Existing governance frameworks already address several of these concerns [1], and recent research highlights participation, lifecycle and stewardship in broader data ecosystems [2, 11]. The proposed contribution is their contextual synthesis for grassroots organisations, not a claim that each component is unprecedented.

Table 4 illustrates how each stewardship characteristic can be expressed as a practical governance question in the membership, activity and capability-building information domains of the originating architecture [10]. The examples distinguish the purpose of collecting information from responsibility for decisions, opportunities for stakeholder input, continuity during role changes and safeguards appropriate to information risks. Their value is analytical: they show how the framework can guide examination of organisational practices without prescribing particular job titles, technologies or control levels. The examples are hypothetical applications, not observations from Trefoil Guild Melaka or validated assessment indicators.

Table 4. Illustrative application of the five stewardship characteristics

Characteristic	Guiding governance question	Illustrative organisational consideration
Purpose alignment	Why is this information needed?	Clarify purposes of membership and activity records.
Accountable responsibility	Who is responsible for decisions and follow-up?	Identify record owners, access approvers and review roles.
Participatory legitimacy	Whose perspectives should inform the decision?	Provide channels for concerns and correction requests.
Lifecycle	What happens when information or	Establish handover, retention and disposal

continuity	roles change?	arrangements.
Proportionate safeguards	What protections fit the risks?	Match access controls to sensitivity and obligations.

Source: Conceptual application of the proposed framework to the information domains identified in [10].

IMPLICATIONS FOR PRACTICE AND RESEARCH

The framework has theoretical, organisational and research implications. Theoretically, it distinguishes integrated information from continuing organisational stewardship and connects community purposes, authority, participation, lifecycle responsibility and safeguards. These implications are conceptual rather than demonstrated implementation outcomes.

Organisational Governance

Grassroots organisations can use the framework to clarify information responsibilities without necessarily creating complex governance structures. A small organisation may assign several responsibilities to one office-bearer, but should still clarify who maintains records, approves access, handles correction requests and reviews retention. Information practices should be connected to legitimate purposes and revisited when those purposes change.

Participation should be proportionate to the decision and the interests affected. Members may need understandable information about how their records are used and channels for concerns, while some operational decisions appropriately remain delegated. Transparency concerns intelligibility of rules, not unrestricted access to personal records. Governance arrangements should also anticipate transitions between office-bearers.

Information-System Design

System requirements should distinguish between information that can technically be connected and information that particular roles need to access. Role-based permissions, records of significant changes, correction processes, retention functions and secure sharing may support stewardship. No feature determines on its own whether a purpose is legitimate or whether a person should receive access; those decisions require organisational rules and accountability.

The framework extends user-centred design beyond interface usability. Procedures for access approval, record correction and retention review should be understandable and practicable. Community-platform research emphasises that relevant functionality, workflow fit and implementation support should be considered together [4, 5].

Resource Constraints and Proportionality

Digital maturity should not be equated with the number of systems or controls an organisation possesses. Clear purposes, assigned responsibilities and workable handover arrangements can matter in simple information environments. More extensive safeguards may be required when information is sensitive or risks increase. Resource constraints influence feasibility but do not remove applicable legal or ethical responsibilities.

Research Agenda

Future research should first assess whether the five characteristics are conceptually distinct and sufficiently comprehensive. Expert appraisal and comparative conceptual analysis could reveal overlaps or omissions.

Qualitative case studies could then investigate how office-bearers, volunteers and affected stakeholders understand and enact information responsibilities; these methods have not been used in the present article.

Subsequent operationalisation could examine clarity of purposes, assignment of authority, accessible stakeholder feedback, continuity of retention and handover procedures, and appropriateness of safeguards. Such indicators require independent development and validation; Table 4 is illustrative, not a measurement scale. Comparative and longitudinal studies could examine organisational variation and continuity during leadership changes.

Future studies should distinguish between formal policies, their enactment in daily practice and outcomes experienced by organisations and people represented in records. The existence of a policy does not prove that a process is followed, and technical controls do not establish that information use is appropriate.

Limitations

This is a theory-informed conceptual synthesis, not a systematic literature review or empirical evaluation. The five characteristics and six propositions have not been validated, and additional scholarship may identify competing frameworks or omitted dimensions. The Trefoil Guild Melaka architecture provides contextual grounding but no evidence of implementation. Transferability depends on organisational capacity, information sensitivity, institutional context and applicable legal obligations.

CONCLUSION

Technical information integration can support grassroots organisational coordination, but connectivity alone does not establish legitimate purposes, accountable decisions or continuing responsibility. Responsible information handling requires consideration of organisational and stakeholder interests across the information lifecycle.

Building on the published conceptual architecture for Trefoil Guild Melaka [10], this article develops a complementary stewardship framework comprising purpose alignment, accountable responsibility, participatory legitimacy, lifecycle continuity and proportionate safeguards. Six propositions articulate expected relationships among these characteristics and provide a basis for subsequent investigation.

The contribution is the contextual integration of established governance concerns into an account of continuing stewardship for grassroots organisations, not a claim that its individual principles are unprecedented. The framework has not been implemented or empirically validated. Further conceptual appraisal, comparative organisational research and careful operationalisation are necessary to assess its distinctiveness, applicability and practical enactment.

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